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1994 Feature Article - Australia's Motor Vehicle Fleet Grows Older

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Introduction

Just as the Australian population is ageing, so is the motor vehicle fleet. Findings from the 1993 Motor Vehicle Census indicate that the attrition rate of vehicles is declining as we keep our motor vehicles on the road for longer. New motor vehicle registrations as a proportion of total motor vehicle registrations are also declining. The combined effect of these two factors is an increase in the average age of the motor vehicle fleet.

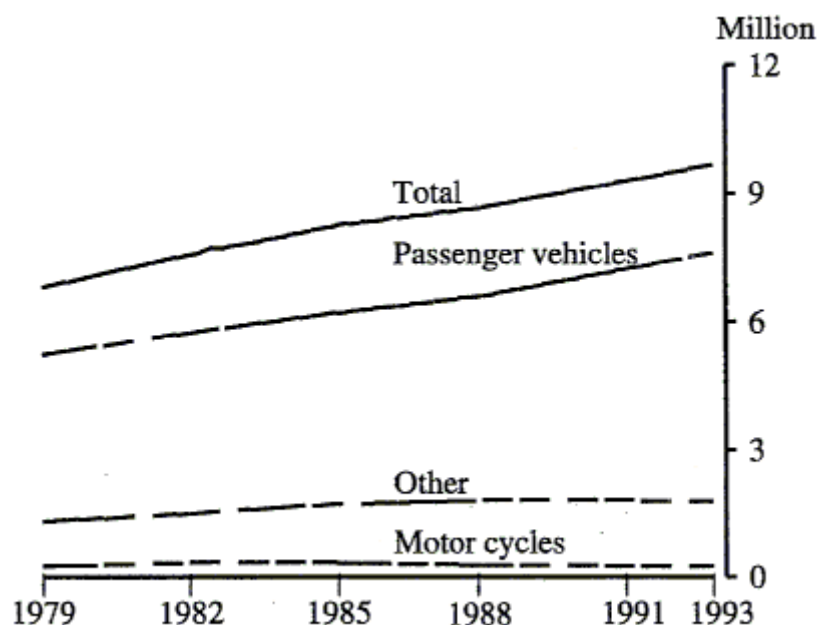
The ageing vehicle fleet impacts upon various segments of the motor vehicle industry. Some of these include motor vehicles and spare parts sales, motor vehicle servicing, and the demand for fuel and lubricants. This article presents some implications for the motor vehicle industry, based on data from the 1993 Motor Vehicle Census.

The results from the Motor Vehicle Census are widely used in the formulation and evaluation of policy in areas such as vehicle emission control, road safety, vehicle manufacturing and road transport infrastructure, as well as market research and strategic planning activities.

Increase in Number of Vehicles

The Motor Vehicle Census was conducted on 30 June 1993 using data supplied by the State and Territory Motor Registries. The Census found that there were 10,505,900 registered motor vehicles in Australia, representing an increase of 4.0 per cent (405,900 vehicles) since the previous Motor Vehicle Census, at 30 September 1991. By comparison, at the first Motor Vehicle Census taken in 1971 there were 5,106,800 registered motor vehicles. Therefore, in the last twenty-two years Australia has seen the motor vehicle fleet more than double with an increase of 105.9 per cent (5,399,100 vehicles). The average annual rate of growth of the vehicle fleet since 1971 was 4.8 per cent. Graph 1 shows the steady upward trend in the total number of vehicles on the register.

GRAPH 1. TOTAL NUMBER OF VEHICLES ON REGISTER BY TYPE OF VEHICLE



Three out of Four are Passenger Vehicles

The number of registered passenger vehicles increased by 5.3 per cent (418,700 vehicles) to 8,280,200 vehicles between 1991 and 1993. Passenger vehicles are defined as those vehicles constructed primarily for the carriage of fewer than ten passengers, including the driver (other vehicles such as utilities, cab-chassis and panel vans are described as light commercial vehicles). Passenger vehicles now account for slightly more than three in every four (78.8 per cent) vehicles on the road.

In contrast, only minor increases were recorded for the number of registered motor cycles, up 1.6 per cent (4,700 vehicles) between 1991 and 1993, while 'other' registered vehicles (articulated, rigid and non-freight carrying trucks, buses, and light commercial vehicles) were down by 0.9 per cent (17,500 vehicles) on 1991 Motor Vehicle Census figures.

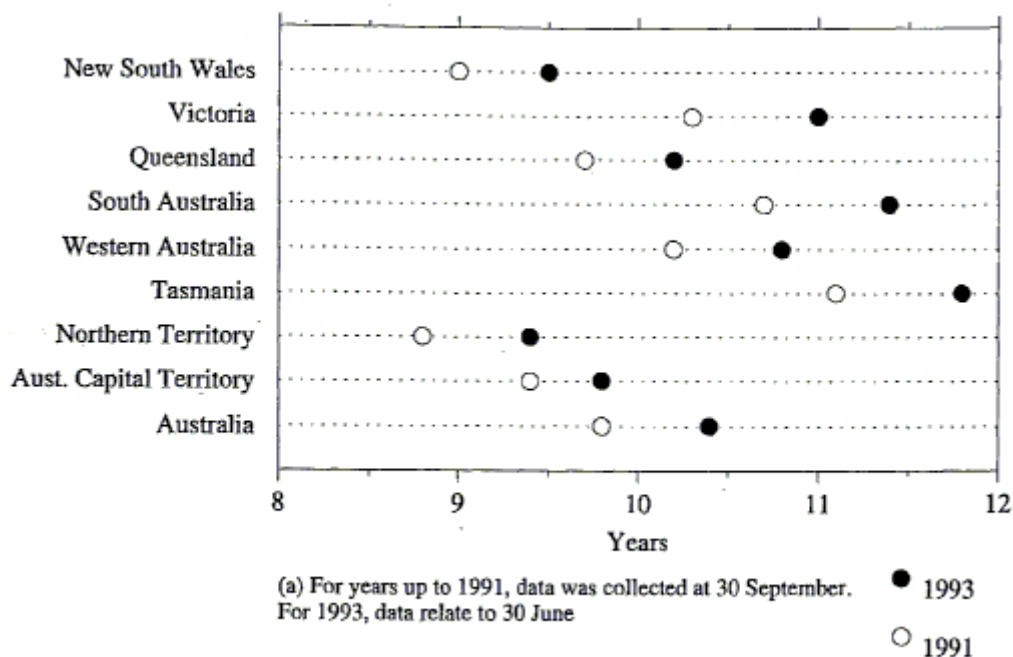
Since 1971, the passenger motor vehicle fleet has grown by 107.5 per cent (4,289,300 vehicles). In the same period, the number of motorcycles has increased by 89.2 per cent (136,200 vehicles) and 'other' vehicles have doubled (101.1 per cent) to 973,600 vehicles.

The Vehicle Fleet is Ageing

The results of the 1993 Motor Vehicle Census clearly indicate that Australia's vehicle fleet is ageing. Just over three quarters (7,899,100 vehicles) of all the vehicles on the register in 1993 were five or more years old. Notably, since 1991 all vehicle types except buses have experienced an increase in the proportion of vehicles that are five or more years old.

The average age of the vehicle fleet continues to increase, with the average age of all vehicles on the register being 10.4 years at 30 June 1993. In 1988 the average age was 9.1 years. This is a significant increase in the short space of five years. Graph 2 shows that the vehicle fleet is ageing in each of the States and Territories. One indication of the ageing of the fleet is that in 1970-71, 10.8 per cent of the total fleet comprised vehicles registered for the first time in that year, while in 1992-93 only 5.2 per cent of the fleet comprised vehicles registered for the first time in that year.

GRAPH 2. AVERAGE AGE OF VEHICLES ON REGISTER(a) BY STATE OF REGISTRATION



Evidence of an ageing fleet also comes from the fact that there has been an average decline of 0.8 per cent in the number of new vehicle registrations each year since 1988-89. In contrast, the total motor vehicle fleet in Australia for the same period has increased by an average of 2.2 per cent each year.

Population Census data offers some assistance in explaining the ageing and expansion of the vehicle fleet. In the 1976 Population Census, 33.9 per cent of households stated that they had two or more vehicles, while in the 1991 Population Census this figure reached 39.4 per cent (up 5.5 percentage points).

Since 1976, household demand for more than one vehicle has increased as a proportion of the total demand for motor vehicles. This means that there is an increasing number of households that are purchasing an extra vehicle which is often a second hand vehicle (or keeping an older vehicle).

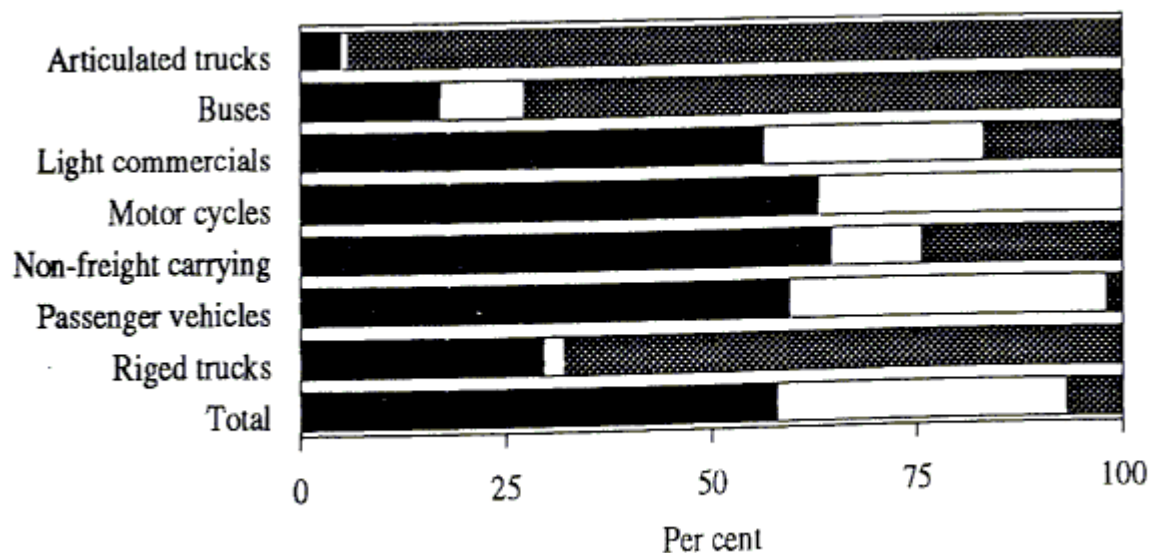
The economic climate over the past few years is also likely to have had a direct effect on the average vehicle age. The fall in full time employment of 5.3 per cent over the period 1989-90 to 1992-93, suggests that there were a reduced number of consumers who could reasonably afford the large expense associated with the purchase of a new motor vehicle.

The advances made in vehicle manufacturing technology through the 1970 to 1990 period also help to explain the longevity of the current vehicle fleet.

Big Jump in Unleaded Vehicles

A total of 91.4 per cent (9,603,900 vehicles) of all the vehicles on the register in 1993 were powered by petrol, with 62.2 per cent (5,974,500 vehicles) of these vehicles still using leaded petrol, and 37.8 per cent (3,629,400 vehicles) using unleaded petrol. The difference in the fuel types used is more clearly illustrated in Graph 3.

GRAPH 3. PROPORTION OF VEHICLES ON REGISTER BY TYPE OF VEHICLE AND FUEL TYPE
30 June 1993



From 1991 to 1993 there was a significant shift to unleaded petrol resulting in 895,100 more vehicles (32.7 per cent) using unleaded petrol and 534,500 fewer vehicles (8.2 percent) using leaded petrol. The relatively slow attrition rate of leaded petrol vehicles over the period is associated with an ageing vehicle fleet.

In 1993 nearly 97 per cent of passenger vehicles (8,018,100 vehicles) were recorded as petrol powered. Of these, 60.9 per cent (4,880,300 vehicles) used leaded petrol representing a decrease of 8.4 percentage points (408,200 vehicles) since 1991.

The use of petrol across the other types of vehicles was varied. Petrol was used by 78.9 per cent (1,148,100 vehicles) of light commercial vehicles; 30.0 per cent (100,800 vehicles) of rigid trucks; 5.5 per cent (2,900 vehicles) of articulated trucks; 70.7 per cent (32,900 vehicles) of non-freight carrying trucks and 26.1 per cent (12,200 vehicles) of buses.

Diesel fuel was used in 6.6 per cent (692,500 vehicles) of all motor vehicles, representing an increase of 13.0 per cent (79,400 vehicles) since 1991. The growth in the number of diesel powered vehicles can be mainly attributed to the 53.1 per cent (53,900 vehicles) increase in the number of diesel powered passenger vehicles from 1991 to 1993. In contrast, for the same period the number of light commercial diesel powered vehicles only increased by 1.4 per cent (3,300 vehicles).

Ford and Holden Still Dominate

The top five makes accounted for 78.6 per cent (6,510,400 vehicles) of registered passenger vehicles in 1993, an increase of 0.9 percentage points (407,600 vehicles) when compared with 1991. In 1971 the top five makes of that time accounted for 76.0 per cent (3,990,900 vehicles) of all passenger vehicles. While Holden, Ford and Chrysler/Mitsubishi have been in the 'top five' throughout this period, the other two makes and the order of the 'top five', has changed over time.

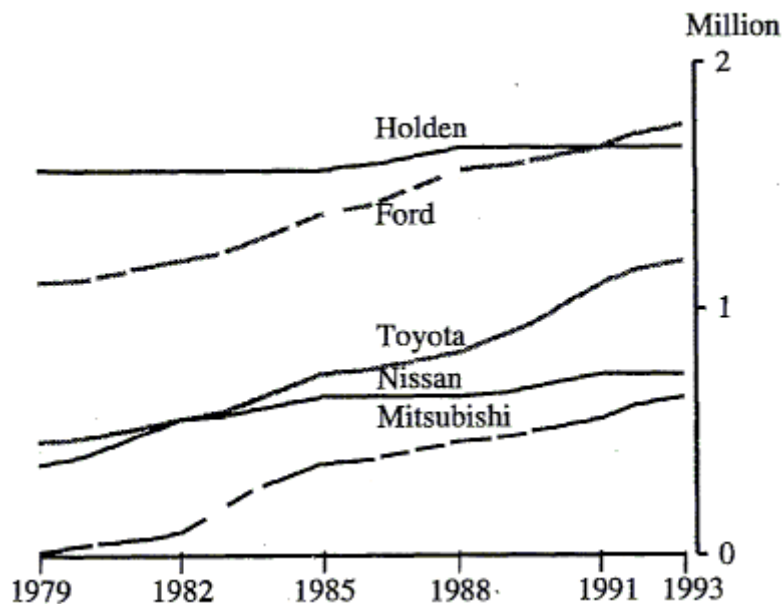
On top of the passenger vehicle make list in 1993 were:

- Ford with 22.7 per cent (1,880,500 vehicles) of registrations;
- Holden with 21.7 per cent (1,799,500 vehicles);

- Toyota with 15.8 per cent (1,312,000 vehicles);
- Nissan with 10.0 per cent (826,400 vehicles);
- Mitsubishi with 8.4 per cent (692,100 vehicles).

Graph 4 illustrates the market share of each of the top five passenger vehicle manufacturers in 1993.

GRAPH 4. TOTAL NUMBER OF PASSENGER VEHICLES ON REGISTER BY TOP 5 MAKES



The 1992-93 new passenger vehicle registrations top five makes list comprises the same makes as those that dominate the total passenger vehicle top five makes list. Ford with 22.2 per cent (99,926 vehicles) recorded the most new registrations followed by Toyota 17.7 per cent (79,539 vehicles), Holden 16.8 per cent (78,800 vehicles), Mitsubishi 13.7 per cent (61,702 vehicles) and Nissan 5.6 per cent (25,278 vehicles). The top five makes accounted for 76.7 per cent of all the new passenger vehicle registrations in 1993.

The statistics on the composition of the top five makes of passenger vehicles in 1993 are very different from those of 1971. Holden dominated in 1971 with a high 36.9 per cent (1,472,700 vehicles) of registrations, followed by Ford with 17.8 per cent (711,800 vehicles), Morris with 7.9 per cent (316,100 vehicles), Chrysler with 7.7 per cent (308,200 vehicles) and Volkswagen with 5.7 per cent (226,100 vehicles). Most notably, in the last twenty-two years the Japanese makes have taken a large share of the top five passenger vehicle makes list, resulting in Holden not having the same dominance that it enjoyed in 1971.

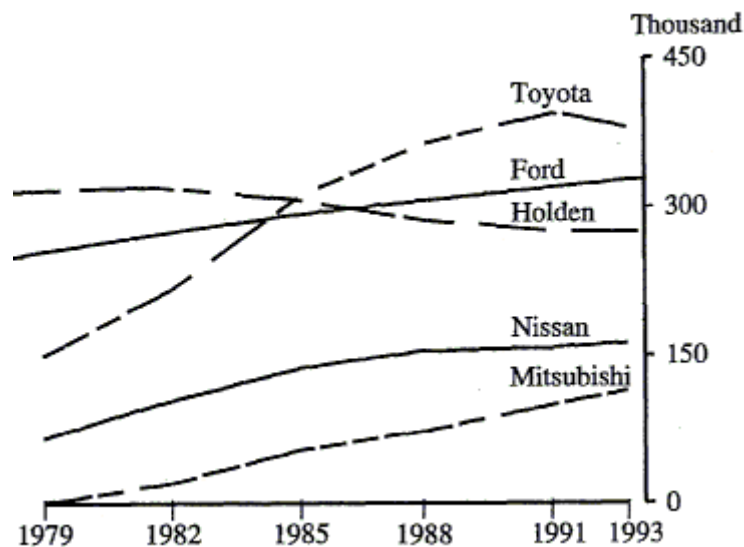
There were a total of 1,843,400 load carrying commercial vehicles (light commercial vehicles, rigid and articulated trucks) on register in 1993. The top five makes were as follows:

- Toyota with 22.4 per cent (412,500 vehicles);
- Ford with 17.9 per cent (329,200 vehicles);
- Holden with 14.8 per cent (273,300 vehicles);

- Nissan with 9.5 per cent (175,800 vehicles);
- Mitsubishi with 6.6 per cent (122,600 vehicles).

Graph 5 shows the market share of each of the top five load carrying commercial vehicle manufacturers.

GRAPH 5. NUMBER OF LOAD CARRYING COMMERCIAL VEHICLES ON REGISTER BY TOP 5 MAKES



In 1971 there were 930,500 load carrying commercial vehicles on register. Again, the 1971 statistics are quite different from those of 1993. In 1971 the top five makes comprised Holden with 27.1 per cent (251,900 vehicles), Ford with 16.6 per cent (154,200 vehicles), Bedford with 9.2 per cent (85,200 vehicles), International with 8.3 per cent (76,800 vehicles), and Toyota with 4.8 per cent (44,900 vehicles) of the registrations. These statistics illustrate the substantial growth by Toyota and decline by Holden in this segment of the vehicle fleet over the past 22 years.

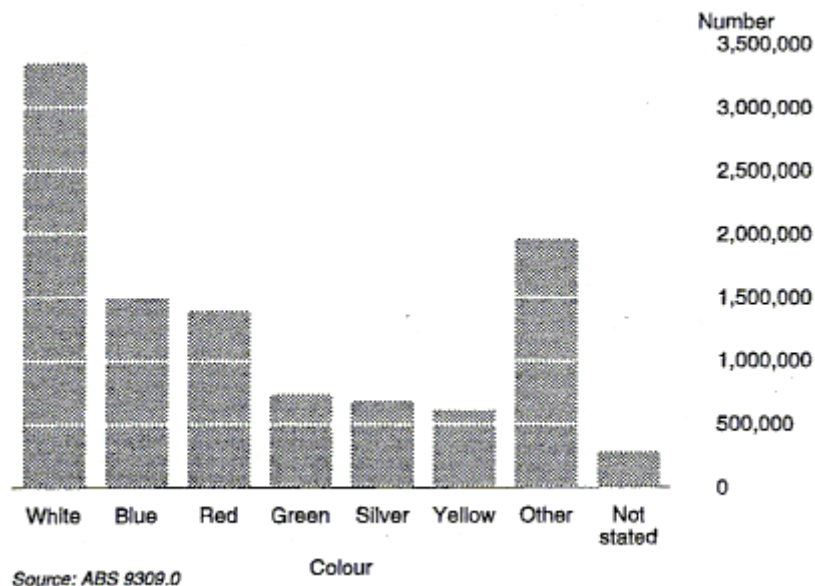
Within both the passenger and load carrying commercial vehicle top five makes lists, there has been a dramatic swing in preference towards Japanese makes since the first Motor Vehicle Census, conducted in 1971.

Every Third Vehicle is White

The 1993 Motor Vehicle Census compiled (for the first time) statistics on the primary colours of the motor vehicle fleet.

A very considerable 31.8 per cent (3,343,800 vehicles) of all the vehicles on the register were white. The next most common primary colour was blue with 14.3 per cent (1,502,300 vehicles), followed by red with 13.3 per cent (1,395,000 vehicles), green with 7.0 per cent (736,200), silver with 6.6 per cent (688,200 vehicles) and yellow with 5.8 per cent (607,100 vehicles) of the registrations. This distribution of primary colours is consistent across all of the States. The findings are also consistent with those of other countries that publish the primary colours of their motor vehicle fleets. Graph 6 illustrates the registered number of each primary colour.

**GRAPH 6. PRIMARY COLOUR OF VEHICLES
30 June 1993**



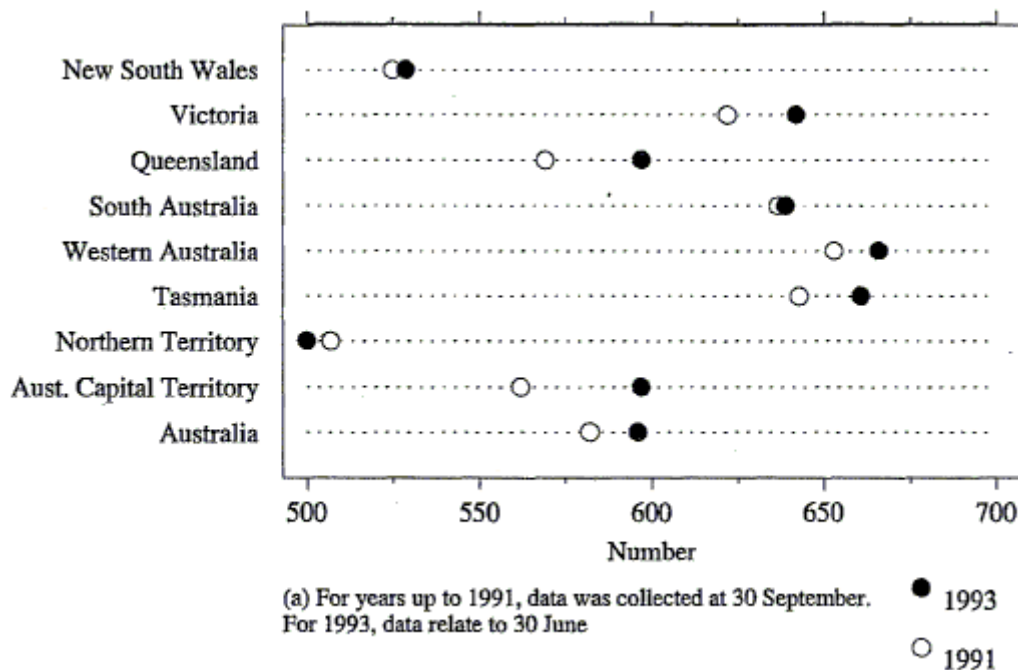
Territories Boom

As would be expected, the two most populous States, New South Wales and Victoria, together accounted for the majority (57.5 per cent) of registered motor vehicles in 1993. Findings from the 1993 Motor Vehicle Census indicate that there were 596 motor vehicle registrations per thousand of estimated resident population in Australia. This represents an increase of 198 registrations per thousand since 1971 and reflects the trend towards two vehicle households over the past twenty-two years.

When the various State and Territory fleets are compared between 1971 and 1993, the Australian Capital Territory and Northern Territory have had the largest growth rates in the number of registered motor vehicles with 181.5 per cent (114,900 vehicles) and 177.4 per cent (53,800 vehicles) increases, respectively. These increases coincide with strong population growth, with the Australian Capital Territory and the Northern Territory recording the highest relative change in population of all the States and Territories with 97.7 per cent (147,700 people) and 96.4 per cent (82,600 people), respectively. The lowest relative change in State motor vehicle fleets occurred in New South Wales with a 79.5 per cent (1,405,100 vehicles) increase and South Australia with an 84.6 per cent (427,600 vehicles) increase.

Despite the large increase in the number of motor vehicles since 1971, Graph 7 shows that the Northern Territory still has the lowest number of vehicles per 1,000 persons (500 vehicles per 1,000 persons). The next lowest is NSW with 529 vehicles per 1,000 persons. States with the highest vehicle to population ratio are Western Australia (666 vehicles per 1000 persons), Tasmania (661 vehicles per 1,000 persons) and Victoria (642 vehicles per 1000 persons).

GRAPH 7. MOTOR VEHICLES ON REGISTER(a) PER 1,000 OF POPULATION BY STATE/ TERRITORY OF REGISTRATION



Passenger vehicles contributed significantly to these movements with increases occurring in all States and Territories, resulting in a total increase of 17 passenger vehicles per thousand of population since 1991, to 470 in 1993.

In 1993, the Northern Territory and New South Wales recorded the lowest numbers of passenger vehicles per 1,000 persons with 325 and 427 respectively. By comparison, Victoria and South Australia recorded the highest number of passenger vehicles per population (517 and 515 vehicles per 1,000 people, respectively). These States also had the largest increase in the number of passenger vehicles per population since 1971; Victoria up by 195 vehicles per 1,000 persons and South Australia up by 185 vehicles per 1,000 persons. For the same period, Queensland's fleet of registered passenger vehicles increased by only 108 vehicles per 1,000 persons to 448 vehicles per 1,000 persons. This was the smallest change of all the States and Territories.

Summary

The 1993 Motor Vehicle Census has confirmed what many transport industry analysts had predicted. The vehicle fleet in Australia is ageing, for reasons which can be attributed to economic and social factors. Among the implications of an older fleet are fuel usage and efficiency, pollution, safety standards and effects on motor vehicle production within Australia and levels of imports.

This feature article was contributed by Rodney Taylor, ABS.

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